All-in-One PC for POS, POI, Kiosk Applications

The Shuttle All-in-One PC Barebone X50V4 is the latest addition to the X50 Series and is powered by Intel's Celeron 2957U processor. The latest 22nm Haswell architecture helps improve on power consumption and computing power. Thanks to its passive cooling, the system is virtually noiseless, maintenance-free and is approved for 24/7 nonstop operation. Particularly suitable for vertical applications is the arrangement of connectors at the bottom and the IP54 compliant front panel which is dust-protected and protected from splashing of water.

Feature Highlights

All-in-One Design	• All-in-One PC Barebone with touchscreen • Small: 391 x 327 x 42 mm (WHL) • Stand can also be used as a handle • 100mm VESA mount capable • IP54 dust and water resistant (front panel) • Approved for 24/7 nonstop operation
Display & Graphics	• 39.6cm (15.6") resistive touchscreen with 1366x768 resolution • Integrated Intel HD graphics • HDMI 1.4 + D-Sub/VGA Video output
CPU & Cooling	• Intel Celeron 2957U, 1.4 GHz, 15W TDP • Fanless heatpipe cooling system
Storage (not included)	• Supports max. 8 GB DDR3L-1600 SO-DIMM • Supports one 2.5" SATA hard disk / SSD • Supports mSATA SSD drive
Operating System	• Operating system is not included • Supports Windows 7 / 8 (Embedded), Linux
Connectivity	• HDMI 1.4, D-Sub/VGA • 2x USB 3.0, 4x USB 2.0, internal: 2x USB 2.0 • Microphone input, head phone output • Gigabit LAN, Wireless LAN 802.11n • Optional: 4x RS232, 1x LPT, 1x RJ11
Built-in	• SD card reader • 2.0 Megapixel HD webcam • 2x 2W speakers • Electret Condenser Microphone
Power Supply	• External fanless power adapter, 65W
Warranty	• 24 months Bring-in Service

Shuttle All-in-One PC Barebone

X50V4 Black

Images for illustration purposes only.

15.6" Touchscreen

Nonstop operating

Fanless cooling

Front protected: dust & water

Up to four COM ports

Windows 7/8 + Linux support

Wireless and Wired Network

2x USB 3.0 4x USB 2.0

Watchdog Hardware

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Shuttle All-in-One PC Barebone X50V4 – Overview

1	Touchscreen LCD display	**10**	SD Card Reader	**19**	Opt: 4xCOM, LPT, RJ11 (POS01)
2	Webcam	**11**	2x USB 2.0	**20**	Perforation for TV antenna (9 mm)
3	Microphone	**12**	Clear CMOS Button	**21**	DC-input for Power Adapter
4	Power on LED	**13**	Stand (handle)	**22**	2x USB 2.0
5	Hard disk LED	**14**	Cooling Vents	**23**	RJ45 Gigabit LAN
6	Stereo speakers	**15**	Kensington lock	**24**	2x USB 3.0
7	Power-on button	**16**	D-Sub/VGA Video Output	**25**	HDMI Video Output
8	Stylus with holder	**17**	Vesa Mount 100x100mm	**26**	Audio Line-out (Head Phone)
9	Power Button	**18**	Optional: 2xCOM, 1xLTP (PCL71)	**27**	Microphone Input

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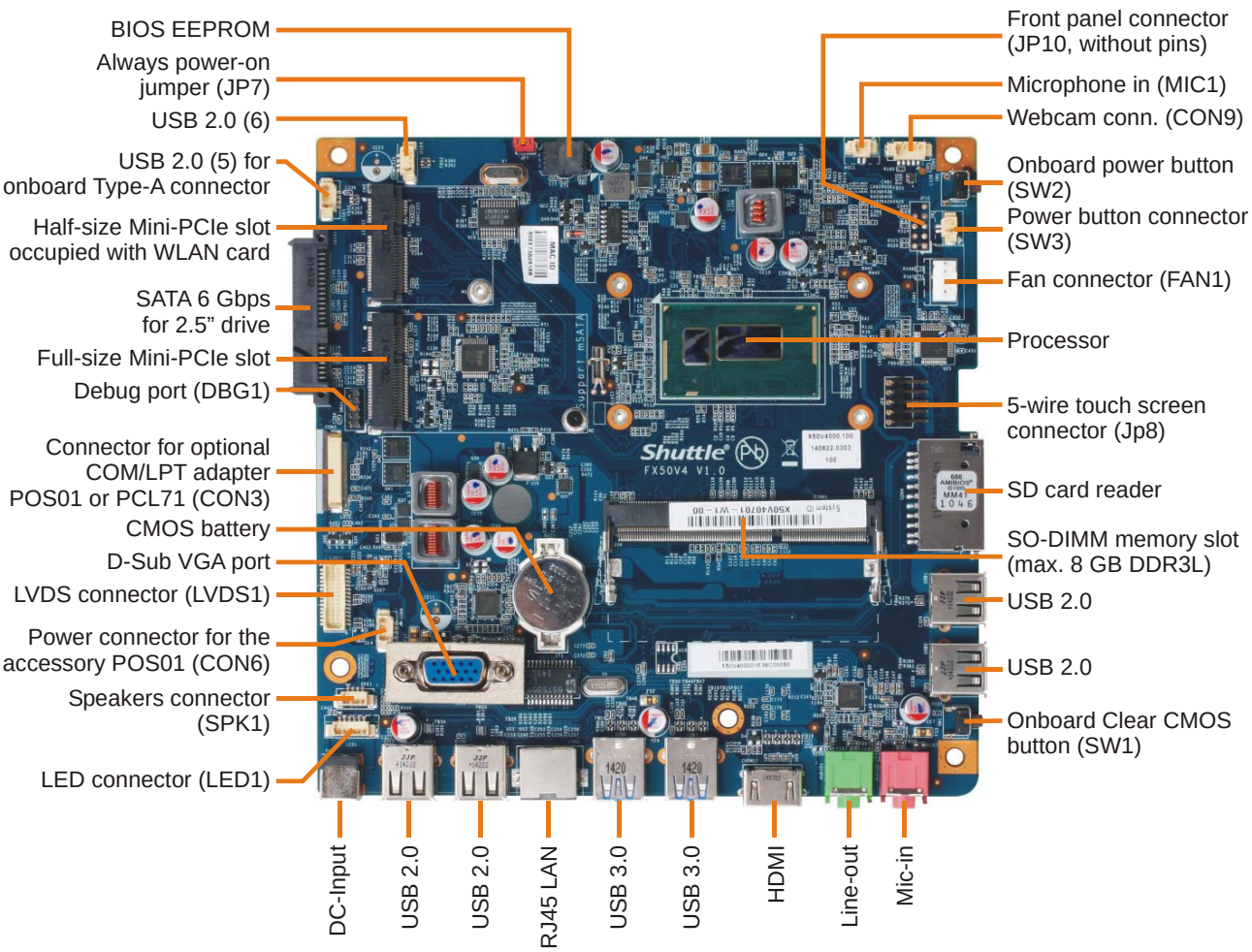
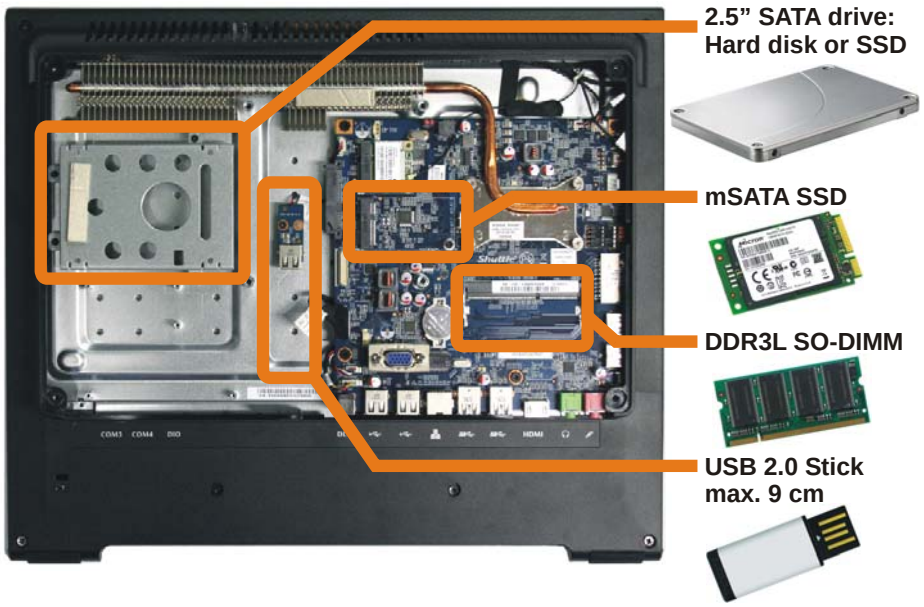
Shuttle All-in-One PC Barebone X50V4 – Mainboard



Installable components:



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Shuttle All-in-One PC Barebone X50V4 – Special Features

All applications at your fingertips

The innovative touchscreen technology delivers the simplest operation possible and makes the screen the centre of action. Its high-quality design lets you control the whole range of multimedia - music, movies, video playback and web browsers start by just touching the screen.

All-in-One PC

Your complete PC system with many components already built in comes in just one single device! This includes the webcam, microphone, mainboard, display, touchscreen input interface, wireless LAN module and speakers. It helps you save space, looks simply stylish and reduces cable clutter.

Highly energy-saving

The Shuttle All-in-One PC Barebone X50V4 barely consumes, depending on system load, about 11 ~ 22.5 Watts. Running the device*) 5 days a week for eight hours a day, the annual consumption would amount to approx. 23~47 kWh which would mean just 6~12 Euros on the power bill (25 Euro ct/kWh) - way less than a conventional desktop PC draws.
*) Based on a configuration with 4 GB of memory, 60 GB SSD and Windows 7 Professional 64-bit.

24/7 nonstop operation

The Shuttle All-in-One PC Barebone X50V4 is officially approved for 24/7 permanent operation. Thanks to its low power consumption and completely passively cooling, this PC runs highly reliable making it perfectly suitable for digital signage and POI/POS applications.

Conditions for permanent use:

- Ambient temperature while under load: 5-35°C
- Air humidity while under load: 10-80% (not condensing)
- Free circulation of air amongst the PC must be guaranteed
- Ventilation holes must be clear
- If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.

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Fanless and quiet

The Shuttle All-in-One PC Barebone X50V4 uses a passive thermal module with heatpipes to lead heat out of the case quickly and evenly. The unique fanless design makes it perfect to be used in noise-sensitive environments such as living rooms, hospitals, libraries etc. As an additional benefit, fanless cases rarely gather dust on the inside and stay cleaner than others. So it's not only quiet and low in energy use, but also virtually maintenance-free.

Connects to two external Full HD displays

The Shuttle All-in-One PC Barebone X50V4 features two video outputs: One analog D-Sub/VGA connector and one HDMI connector. Two external Full HD displays can be connected in extended mode. Now add the built-in display of the X50V4 and there are three displays showing different content.

Protection Class IP54

The front panel of the Shuttle All-in-One PC Barebone X50V4 is dust-protected and protected from splashing of water according to IPprotection class 54. Consequently, this All-in-One PC can be used for those indoor applications, where the touchscreen may be exposed to humidity and occasional splashing of water. This is particularly welcome in restaurants, laboratories, production or other places.

Optimised Cable Management

Most of the connectors are located at the back panel facing down. This leads to an effective cable management making for a clean, tidy appearance on the desk.
On the left side sit those connectors which need to beaccessed from the front side: card reader and two USB ports.

Optional COM, LPT, DIO ports

Shuttle offers two optional accessories in order to add legacy ports to the Shuttle All-in-One PC Barebone X50V4. While the Shuttle Accessory **PCL71** adds two serial COM ports and one parallel LPT port, the **POS01** adds two more COM ports (with RJ45 connector) and one Digital I/O 12V/24V (RJ11) for a cash drawer for example. COM ports are still commonly used for applications such as industrial automation systems, scientific analysis, POS systems and other industrial applications.

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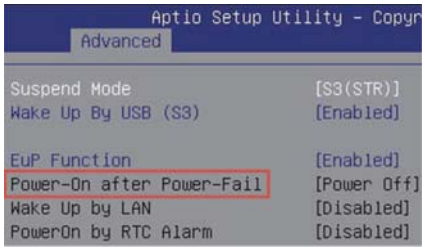
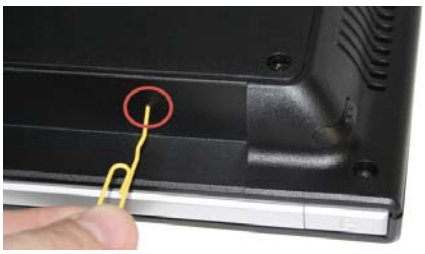

Aptio Setup Utility - Copyr
Advanced
Suspend Mode [S3(STR)]
Wake Up By USB (S3) [Enabled]
EuP Function [Enabled]
Power-On after Power-Fail [Power Off]
Wake Up by LAN [Disabled]
PowerOn by RTC Alarm [Disabled]

Power on after Power fail

The BIOS setup provides a "Power-On after Power Fail" function that can be found under "Power Management Configuration" where the PC's behaviour after power failure can be determined.

Always Power-on Jumper

The Shuttle All-in-One PC Barebone X50V4 also comes with a hardware-based solution. By removing Jumper 7 (see picture), the system will start unconditionally once power is applied.



Hidden Power Button

The power button can be deactivated to prevent unauthorized usage. Still it can be used with a straightened paper clip as shown on the left.

Internal USB Slot and perforation for external antenna

The Shuttle All-in-One PC Barebone X50V4 features an internal USB 2.0 connector (type A) for an USB stick of max. 9 cm in length and a 9 mm perforation for an optional antenna. The internal USB connector for expansion sticks (such as flash memory, DVB-T, SAT, 3G) or other USB devices like a radio module for home automation or RFID. Furthermore, there is a free USB header available on the mainboard.

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VESA mount

The stand on the rear can easily be removed to unveil four VESA mounting screw holes that can be used for mounting arms and other mounting devices from a variety of manufacturers.

Stylus for the touchscreen

The Shuttle All-in-One PC Barebone X50V4 is equipped with a 5-wire resistive touchscreen for simple operation by finger (even with gloves) or stylus. The stylus comes supplied as standard and sits in an opening located at the top of the chassis. Using the stylus results in a smoother and more precise input than just using the finger.

Kensington Lock

This is a small, metal-reinforced hole as part of an anti-theft system. (Lock and cable not included.)

Carrying handle

The practical stand can be pulled upwards to also serve as a handle making the Shuttle All-in-One PC Barebone X50V4 easy to carry. Clever!

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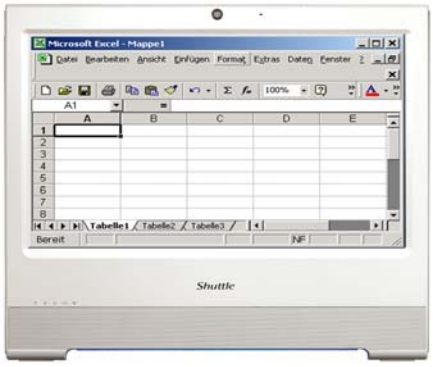
Shuttle All-in-One PC Barebone X50V4 – Range of Applications

Entertainment
Music, Movies,
Photo gallery, TV*

*) TV tuner USB stick required



Office Work
Word and spreadsheet processing, email, internet

P.O.S.
Point of sales

Control
Surveillance,
Home Automation,
Control device

Communication
Email, VoIP, Messenger,
Blog, Video Conferencing

Digital Signage
Visual advertising,
entertainment, displaying
information in public areas

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Shuttle All-in-One PC Barebone X50V4 – Specifications

Fanless and silent	Passive heatpipe cooling, no fan noise at all Perfect to be used in noise-sensitive environments Fanless, dust-free and thus virtually maintenance-free
24/7 nonstop operation	This device is approved for 24/7 permanent operation. Requirements: - Free circulation of air amongst the PC must be guaranteed. - Ventilation holes must be clear. - If a hard disk is installed, this must also be approved for permanent operation by its manufacturer.
IP54 protected	The front panel is dust-protected and protected from splashing of water according to protection class IP54.
Low power consumption	Power consumption: ca. 11 W (idle mode) and ca. 22.5 W (full load) When switched off: 0.25W (S5 mode with EUP=on) (Configuration: 4 GB RAM, 60 GB SSD and Windows 7)
Chassis	Colour: black Dimensions: 391 x 327 x 42 mm (WxHxL) 100mm VESA mount capable Mounting hole for Kensington lock Weight: 3.08 kg net, 4.24 kg gross
Operation System	This system comes without operating system. It is compatible with: Windows 7 / 8 / 8.1 (also Embedded) 32- and 64-bit, Linux 32- and 64-bit (tested with Ubuntu Fedora 20 x64, Ubuntu 14.04 x64 and OpenSuse 13.1 x64)
Touchscreen	Touchscreen function supports fingertip input Resistive 5-wire single-touch technology Including stylus for the touchscreen
15.6" Display	39.6cm / 15.6" LCD display, ratio: 16:9 widescreen panel Resolution: 1366x768 = 1.05 Megapixel Backlight unit: High power LED, Luminance: 220 cd/sqm Glass thickness: 0.5 mm

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Processor	Intel® Celeron® Processor 2957U (ultra low voltage) SOC with integrated chipset including controller for memory and graphics 22 nm manufacturing process, FCBGA1168 package 4th Generation Intel® Core™ Processor (Codename "Haswell") Dual Core (two threads), Core frequency: 1.4 GHz L1/L2/L3 Cache size: 128 kB, 512 kB, 2 MB Max. Thermal Design Power (TDP): 15 W Supports 64-bit instructions, Execute Disable Bit Intel® Virtualization Technology (VT-x) with Extended Page Tables (EPT) Enhanced Intel SpeedStep® Technology Thermal Monitoring Technologies Passive cooling without any fan
Integrated Graphics	The Graphics Processing Unit (GPU) is integrated in the processor Intel® HD Graphics core 10 Execution Units (EUs) clocked at 200 - 1000 MHz Supports Intel® Quick-Sync-Video and Intel® Clear-Video Supports DirectX 11.1, OpenCL 1.2 and OpenGL 4.0, Shader 5.0 Shared Memory technology
Up to three displays	Two video outputs: HDMI v1.4 and D-Sub (VGA) Supports triple display: the integrated display plus two external displays 1) Clone mode: all displays show the same content at 1366x768 resolution 2) Extended mode: all displays show different content, while the external displays run at Full HD resolution (1920x1080) maximum.
BIOS	AMI BIOS in 8 MByte EEPROM with SPI interface Supports Power fail resume / AC power on state / always on / always off Supports Wake-on-LAN (WOL) from S3, S3, S5 ACPI states Supports hardware monitoring and watch dog functionality
Memory	1x SO-DIMM slot with 204 pins Supports one module DDR3L-1333/1600 (PC3-10600/12800) at 1.35V Maximum capacity: 8 GB Caution: This mainboard does only support 1.35V DDR3L memory modules. Note: DDR3L has a lower operation voltage compared to DDR3
Storage	Supports one SATA hard disk or one SATA SSD drive in 6.35cm/2.5" format The SATA 2.0 interface supports up to 300MB/s data transfer speed (3 Gbit/s). Supports one drive with up to 12.5 mm height
Mini-Slots	This devices comes with two mini expansion slots: 1) the half-size slot is occupied with a WLAN module 2) the full-size slot supports a mSATA flash memory card (max. 6 Gbit/s)
Card Reader	Integrated card reader supports SD, SDHC and SDXC memory flash cards
Webcam	Integrated 2.0 Megapixel (1600x1200) HD webcam

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Microphone Speakers	Front panel with integrated Electret Condenser Microphone and 2x 2W speakers
Audio	Realtek ALC269 Audio Codec Two analog audio connectors (3.5mm): 1) Line-out (head phone) 2) Microphone input Digital Audio is supported via HDMI.
Wired Network	RJ45 connector supports Gigabit LAN at 10/100/1000 Mbit/sec. Network controller Realtek 8111G Supports Wake-on-LAN (WOL) from S3, S3, S5 ACPI states
Wireless Network	WLAN chip: Realtek 8188EE Supports IEEE 802.11b/g/n, max. 150Mbps up-/downstream Security: WPA/WPA2, WEP Half-size Mini-PCIe-Card
Front LEDs	Power LED (blue) Hard disk LED (orange)
Connectors left side	Power button 2x USB 2.0 SD card reader Hole with power button Hole with Clear CMOS button
Connectors bottom side	HDMI 1.4 (supports digital video and digital audio) 2x USB 3.0 2x USB 2.0 Gigabit Network (LAN, RJ45) Audio Line-out (head phone) Microphone input DC input for external power adapter Perforation for optional TV/3G antenna (diameter: 9 mm) Optional: 2x COM (RJ45), DIO (RJ11) for cash drawer (accessory POS01)
Connectors back side	VGA connector (D-Sub 15 pol., analog) Optional: 2x COM, 1x LPT (Accessory: PCL71 or POS01)
Connectors onboard	Serial ATA (6 Gbps) Serial ATA power connector 4x USB 2.0 header (three occupied, one free) Fan connector (4-pin) LVDS header (Low Voltage Differential Signaling) LPC header (Low Pin Count)

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Power Adapter	External 65 W power adapter (fanless) Input: 100~240 V AC, 50/60 Hz, max. 1.6 A Output: 19 V DC, max. 3.42 A, max. 65 W DC Connector: 5.5 / 2.5 mm (outer/inner diameter)
Included Accessories	Quick Guide Driver DVD External Power Adapter (65W) Power cord Serial ATA cable for the 2.5" drive Screws
Optional Accessories	PCL71: COM / LPT adapter: - 1x Parallel (25p D-Sub) - 2x Serial RS232 (9p D-Sub) supports 0 / 5 / 12V POS01: COM / LPT adapter: - 1x Parallel (25p D-Sub) - 2x Serial RS232 (9p D-Sub) supports 0 / 5 / 12V - 2x Serial RS232 (8p RJ45) - 1x DIO/RJ11 connector for cash drawer supports 12 / 24V PF55: Carrying bag
Environ-mental criteria	Operating temperature: 0~40°C Humidity: 10~90%
Certification and Compliance	EMI: CE, FCC, BSMI, C-Tick Safety: CB, BSMI, ETL, CCC Other compliances: RoHS, ErP Lot6, Energy Star v5.0
Conformity	This device is classed as a technical information equipment (ITE) in class B and is intended for use in living room and office. The CE-mark approves the conformity by the EU-guidelines: - EMV-guideline 89/336/EWG electromagnetic tolerance - LVD-guideline 73/23/EWG use of electric devices within certain voltage limits

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Shuttle All-in-One PC Barebone X50 Series
Product Comparison

Model ->	X50	X50V2	X50V2 Plus	X50V3	X50V3L	X50V4
Lifetime	05/2009 - 03/2010	01/2010 - 05/2011	04/2011 - Q1/2015	Q2/2012 - Q4/2012	Q1/2013 - Q1/2014	01/2015 - present
Processor	**Atom 330** 1,6 GHz TDP: 8W Cache: 1 MB	**Atom D510** 1,66 GHz TDP: 15W Cache: 1 MB	**Atom D525** 1,8 GHz TDP: 13W Cache: 1 MB	**Atom D2700** [1] 2,13 GHz TDP: 10W Cache: 1 MB	**Atom D2550** [1] 1,86 GHz TDP: 10W Cache: 1 MB	**Celeron 2957U** 1,4 GHz TDP: 15W Cache: 2 MB
BIOS Version	Award	AMI	AMI	AMI		AMI
Integr. Graphics	GMA950, DX9	GMA3150, DX9	GMA3150, DX9	GMA3650, DX9 [2]		Intel HD,DX11.1
Cooling	With fan	Passive	Passive	Passive		Passive
North Bridge	Intel 945GC 22W	-	-	-		-
South Bridge	Intel ICH7 3.3W	Intel NM10 2.5W	Intel NM10 2.5W	Intel NM10 2.5W		-
Memory	Max. 2x 2GB DDR2-667/533 SO-DIMMs 200p	Max. 2x 2GB DDR2-800/667 SO-DIMMs 200p	Max. 2x 2GB DDR3-800/667[3] SO-DIMMs 204p	Max. 2x 2GB or 1x 4GB DDR3-1066/800 [4] SO-DIMMs 204p		Max. 1x 8GB DDR3L-1600 [5] SO-DIMMs 204p
Webcam	1,3 MP	1,3 MP	2,0 MP	2,0 MP		2,0 MP
Display Backlight	CCFL	LED	LED	LED		LED
Connectors	D-Sub VGA 5x USB 2.0 RJ45 (Gigabit) 3x Audio Card reader	D-Sub VGA 4x USB 2.0 RJ45 (10/100) 2x Audio Card reader 2x RS232 1x LPT (parallel)	D-Sub VGA 4x USB 2.0 RJ45 (10/100) 2x Audio Card reader	HDMI 1.3 D-Sub VGA 4x USB 2.0 RJ45 (Gigabit) 2x Audio Card reader		HDMI 1.4 D-Sub VGA 2x USB 3.0 4x USB 2.0 RJ45 (Gigabit) 2x Audio Card reader
COM/LPT port	Not available	Included	Optional (PCL68)	Optional (PCL69)		Optional (PCL71/POS01)
Power consumption (Idle/Full)	39 - 52 W	19 - 22 W	19 - 22 W	20 - 27 W		11 - 22.5 W
Power Adapter	65 W	40 W	40 W	40 W		65 W
H/W control Webcam, WLAN	Two buttons	Control AP Software	Control AP Software	BIOS setting		BIOS setting
Chassis / Dimensions	Glossy 391 x 327 x 36	Glossy 391 x 327 x 36	Glossy 391 x 327 x 36	Non-Glossy 391 x 327 x 42		Non-Glossy 391 x 327 x 42
Back cover with embossed Shuttle-Logo	Yes	Yes	Yes	-		-
Light bar at the bottom	Yes	Yes	Yes	-		-
24/7 approved	No	Yes	Yes	Yes		Yes
Other	-	-	-	-		IP54 compliant (front side) Onboard: one free USB port

[1] In 2012, Intel phased out the Atom D2700 processor and introduced the D2550 as its successor. This new model comes with a slightly reduced clock rate, while any other features are maintained.
[2] Intel offers sophisticated graphics driver for the integrated Intel GMA3650 graphics only for Windows 7 32-bit.
[3] DDR3-1600/1333 is supported at DDR3-800 clock rate respectively.
[4] DDR3-1600/1333 is supported at DDR3-1066 clock rate respectively.
[5] The Shuttle All-in-One PC Barebone X50V4 does only support 1.35V DDR3L memory modules which have a lower operation voltage compared to DDR3.

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